CHANGE

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

6780.5 CHG 1

7/24/81

Cancellation Date: Retain

SUBJ: DME INSTALLATION STANDARDS HANDBOOK TYPE FA-9639

1. PURPOSE. This change provides information for commissioning of facilities after the installation of the DME Type FA-9639.

2. CHANGE. Paragraph 8 of chapter 1 has been changed to correct the procedure for commissioning a facility after the installation of the DME Type FA-9639.

PAGE CONTROL CHART

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for GERALD L. THOMPSON
Director, Airway Facilities Service

Distribution: Selected Airway Facilities Field Offices; A-X(AF)-3; ZAF-601

Initiated By: AAF-410

CHAPTER 1. GENERAL INFORMATION

1. PURPOSE. This order is a guide for planning and installing distance measuring equipment (DME) Type FA-9639, its antenna, and its associated remote alarm tone receiver (ratr) and radio link status indicator (rlsi) at air navigation facilities.

2. DISTRIBUTION. This order is distributed to selected offices and services within Washington headquarters, FAA Technical Center, and the Aeronautical Center, and to branch levels within regional Airway Facilities divisions.

3. BACKGROUND. The DME provides the distance from the aircraft to the DME transmitter antenna. The FA-9639 type DME is a completely solid-state unit that will be used to establish new colocated DME facilities and replace the obsolete vacuum tube DME units currently installed at air navigation facilities. Cost studies have shown that replacing obsolete vacuum tube equipment with solid-state equipment will pay for itself by savings in operating and maintenance costs. The Federal Aviation Administration (FAA) has planned a DME replacement program starting in fiscal year 1980 and extending for about five years. This order will provide DME installation direction to cognizant FAA and assigned contractor personnel.

4. SCOPE. This order provides direction for installing the DME, its antenna, the ratr, and the rlsi at existing air navigation facilities. The text provides a brief description of the equipment's functional and physical characteristics, presents floor plan arrangement drawings for locating the DME and its antenna mast at each facility type, defines a step-by-step procedure for installing the equipment, and presents applicable interface and interconnection wiring diagrams.

a. The order presented herein provides only DME and associated equipment installation guidance and direction at existing air navigation facilities. Once the DME equipment is installed, the applicable manufacturer-furnished instruction books, referenced in the text or appropriate references, shall be referred to for any equipment operating, calibrating, or initial checkout procedures.

b. Many of the facilities are not constructed exactly as shown, and some local adaption may be required. Authorized deviation from standards may be obtained by filing FAA Form 6000-3, Airway Facilities Criteria Waiver Request.

5. SAFETY. Personnel shall at all times exercise care while working on equipment where dangerously high voltages are employed. This is especially true when inspection plates and dust covers are removed or access doors are opened, exposing internal wiring. Contact with alternating current (ac), direct current (dc), or radio frequency (rf)

potentials can result in severe shock, burns, or loss of life. Maintenance personnel should familiarize themselves with the technique for resuscitation found in the manual of first aid instructions. All individuals should be thoroughly familiar with general safety practices prior to working on equipment so as not to endanger themselves or others. Operating and maintenance personnel should refer to the latest edition of FAA Orders 6000.15, General Maintenance Handbook for Airway Facilities, for safety precautions to be observed: and 3900.6, Occupational Safety Program for Airway Facilities Personnel. Ignorance and carelessness are predominant factors in most accidents. Particular attention shall be given to the proper use of the grounding rods prior to working on high voltage circuits. Under certain conditions, dangerous potentials may exist in circuits with power controls in the OFF position due to charges retained in capacitors. To avoid injuries, always remove power, then discharge and ground by use of a grounding rod prior to touching any parts.

6. DIRECTIVE VERBS. This order contains policy statements and/or other guidance material wherein directive verbs such as SHALL, WILL, and MAY are used. The following rules of usage apply:

a. Shall is used to denote compulsory or mandatory action which the person directed is obliged to take. Example: The equipment SHALL be adjusted to operate in accordance with directive tolerances.

b. Should is used to denote an action which is strongly recommended, but left to the discretion of the person being directed. Example: The equipment SHOULD be shut down if, in the opinion of the technician, catastrophic failure is imminent.

c. Will is used to denote action in the future tense. Example: Obsolete equipment WILL be replaced as soon as funds can be made available.

d. May is used to denote permission. Example: At navigation aid facilities, certain maintenance activities MAY be performed without recourse to flight inspection.

7. FAA DRAWINGS. The drawings included in this order as standard references are listed in table 1-1.

* 8. COMMISSIONING DATA. The facility shall be commissioned only after satisfactory completion of a joint acceptance inspection (JAI) by the installation personnel and the sector manager or his representative. This shall include preparation of FAA Form 198 for the DME, the ratr, and the rlsi. Samples of these forms are presented in the appendixes to this document. *